REMARKS

Claims 1-4 and 7-9 are currently pending in the application.

On page 3 of the Office Action, claims 1-4 and 7-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,784,611 (Thantrakul).

Thantrakul is directed to an in-system programmer including control logic embedded into the target microprocessor bus address decoder logic and a memory module in the form of an external device that consists of one or more non-volatile memory chips.

Applicants respectfully submit that the subject matter of claim 1 is not achievable from Thantrakul. Thantrakul does not teach or suggest that during the rewrite operation mode, a first chip select signal is transmitted to an internal nonvolatile memory which stores therein a program to be executed during a rewrite operation mode and a second chip select signal is transmitted to the external nonvolatile memory.

In claim 1, the internal nonvolatile memory (internal ROM 16) and the external nonvolatile memory (flash memory 26) become accessible by the selector circuit during the rewrite operation mode. This enables the starting of the transmission of the rewrite data without the operation of copying a transfer program from the exterior. Consequently, the duration of rewrite operation mode is shortened, thereby resulting in the possibility of improving system performance.

The internal nonvolatile memory (internal ROM 16) and the external nonvolatile memory (flash memory 26) to which the first and second chip select signals access during the rewrite operation mode in claim 1 correspond to the data memory 36 (RAM memory) and the program memory 34 of Thantrakul's Fig. 1.

In Thantrakul, as shown in step 162 of Fig. 9B and Fig. 12, during the rewrite operation mode, the rewrite data is transferred from the buffer memory to the on-board (target) flash IEEPROM memory (nonvolatile memory) by executing the transfer program copied into the RAM memory (volatile memory). For this reason, in Thanktrakul, a transfer program needs to be copied from the in-system programmer memory module to the RAM memory before writing the rewrite data to the on-board flash/EEPROM memory in order to execute the transfer program in the RAM memory (as shown in step 146 of Fig. 9A and Fig. 10 of Thanktrakul). Consequently, Thanktrakul cannot achieve the subject matter of claim 1 identified above. Applicants respectfully submit that independent claim 1 is patentable over Thantraku.

Regarding claims 2 and 3, Applicants respectfully submit that Thantrakul fails to disclose or suggest an internal volatile memory storing, in advance therein, a transfer program and executing the transfer program stored in the internal nonvolatile memory during the rewrite operation mode. For the above-identified reasons, in Thantrakul, a transfer program needs to be copied from the exterior in order to start the transmission of the rewrite data.

Applicants respectfully submit that claim 4 is not achievable from Thantrakul, as Thantrakul fails to disclose a selector control circuit forcibly outputting to the selector circuit a level indicating the normal operation mode based on a control signal from the CPU core. In contrast, in Thantrakul, the master reset is executed after completing the writing of rewrite data, and the normal operation mode is started thereafter (as illustrated in operation 164 of Fig. 9B and operation 126 of Fig. 9A).

In light of the foregoing, claims 1-4 and 7-9 are patentable over the reference.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: _____
Reginald D. Lucas
Registration No. 46,883

1201 New York Ave, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501